

Chapter 9 — Glossary

Acid Neutralizing Capacity – The extent to which natural water bodies are able to buffer atmospheric deposition of sulfate and/or nitrate particulate matter from air pollution emission sources.

Acre-feet – The volume of liquid or solid required to cover one acre to a depth of one foot, or 43,560 cubic feet; measure for volumes of water, reservoir rock, etc.

Adsorb – A process by which molecules are taken up on the surface of a solid by chemical or physical action. Large amounts of gases, for example, may be adsorbed on the surface of a porous material such as charcoal.

Ad valorem – A tax on items that is imposed at a rate percent of value.

Affected Environment – The natural, physical, and human-related environment that is sensitive to changes due to proposed actions; the environment under the administration of a land management agency.

Air Dispersion Modeling – A complex computer model that calculates ambient concentrations of air pollutants.

Allotment – A unit of land suitable and available for livestock grazing that is managed as one grazing unit.

Alluvial – Deposited by a stream.

Alluvial Fan – A fan-shaped deposit of unsorted stream sand and gravel located where an ephemeral stream issues from a relatively steep mountain valley on to a relatively flat plain.

Alluvial Valley – A valley containing stream-deposited silt, sand, and gravel.

Alluvium – Unconsolidated or poorly consolidated gravel sands and clays, deposited by streams and rivers on riverbeds, floodplains, and alluvial fans.

Ambient – The environment as it exists at the point of measurement and against which changes or impacts are measured.

Ambient Concentration – The mass of a pollutant in a given volume of air. It is typically measured as micrograms of pollutant per cubic meter of air.

Ancillary Facility – Additional support structures required to develop the mineral resource. In the case of CBM development, this consists of gas compressor facilities, roads, collection pipelines, and electric power lines.

Animal Month – for cow/calf operations, it is the amount of forage consumed by a 1,000-pound cow and calf (less than 6 months of age) over a one-month period. It is approximately 1,050 pounds of forage.

Annulus – The space between the well casing and the boundary of the hole.

Antiquities – A general term for archaeological or paleontological resources that are at least 100 years of age and that tangibly represent or have the potential to yield information on historical or prehistoric cultures, or extinct plants and animals.

Aquifer – A body of rock that is sufficiently permeable to conduct groundwater and to yield economically significant quantities of water to wells and springs.

Assemblage – A group of rocks grouped together by age or similar origin.

Authorizing Officer – Person designated by an Agency as being in the position to speak for and commit the agency to action.

Avoidance Area – An environmentally sensitive area designated by an Agency. Authorizations would be granted only in cases where there is a prevailing need and no practical alternative exists, and then only with provisions to protect the sensitive resources.

Azimuth – Horizontal direction expressed as the angular distance between the direction of a fixed point and the direction of the object.

Background – The viewing area of a distance zone that lies beyond the foreground-middleground. Usually from a minimum of 3 to 5 miles to a maximum of about 15 miles from a travel route, use area, or other observer position. Atmospheric conditions in some areas may limit the maximum to about 8 miles or increase it beyond 15 miles.

Best Management Practices – a practice or combination of practices determined by the state to be the most effective and practicable (including technological, economic and institutional considerations) means of preventing or reducing the amount of pollution generated by non-point sources to a level compatible with water quality goals.

Big Game – Large species of wildlife that are managed for hunting.

Biotic – Pertaining to life and living organisms.

Blow Out Prevention Equipment – A series of valves on the drill rig that can close down the well in the event that the drill bit penetrates extreme pressure zones.

Bond – Financial guarantee to ensure compliance with the Mineral Leasing Act, including complete and timely plugging of wells, reclamation of lands or

adversely affected surface waters, payment of royalties, assessments, or penalties.

Broadcast Seeding – Distribution of seed by a fan spreader or by hand spreading.

Canopy – The more-or-less continuous cover of branches and foliage formed collectively by the crown of adjacent trees and other woody growth.

Carbon Dioxide (CO₂) – A non-hydrocarbon, corrosive gas that occurs naturally in the gaseous phase in the natural gas reservoir, or is injected into the reservoir in connection with pressure maintenance, gas cycling, or other secondary or enhanced recovery projects.

Casing – (N) A steel pipe that maintains the opening of a drill hole. (V) The act of installing pipe within a well.

Catalyst – A substance that enables a chemical reaction to proceed at a usually faster rate or under different conditions than otherwise possible.

Cation – A positive ion, which in electrolysis, travels to the cathode and is discharged there.

Cement Bond Log – A geophysical log which confirms the continuous placement of cement within the annulus of the well, to isolate the formation of interest and to prevent commingling of different aquifers around the casing.

Characteristic Landscape – The established landscape within an area being viewed. The term does not necessarily mean a naturalistic character, but may refer to features of the cultural landscape, such as a farming community, an urban landscape, or other landscape that has an identifiable character.

Clean Air Act – Public Law 84–159, established July 14, 1955, and amended numerous times since. The Clean Air Act: establishes Federal standards for air pollutants emitted from stationary and mobile sources; authorizes states, tribes and local agencies to regulate polluting emissions; requires those agencies to improve air quality in areas of the country which do not meet Federal standards; and to prevent significant deterioration in areas where air quality is cleaner than those standards. The Act also requires that all Federal activities (either direct or authorized) comply with applicable local, state, tribal and Federal air quality laws, statutes, regulations, standards and implementation plans. In addition, before these activities can take place in non-attainment or maintenance areas, the Federal agencies must conduct a Conformity Analysis (and possible Determination) demonstrating the proposed activity will comply with all applicable air quality requirements.

Climatology – Science of climate and its causes.

Coal bed – A seam or stratum of coal parallel to the rock stratification.

CFR – Code of Federal Regulations, the compilation of federal regulations adopted by federal agencies through a rule-making process.

Colluvial – Consisting of a mixture of soil and angular fragments of rock that have accumulated at the foot and on slopes of mountainsides under the influence of gravity.

Colluvium – A mixture of soil and angular fragments of rock that have accumulated at the foot and on slopes of mountainsides under the influence of gravity.

Community (plant community) – An assembly of plants living together, reflecting no particular ecological status.

Community Types (vegetation) – A group of plants living in a specific region under relatively similar conditions.

Compressor – Equipment (electrically or gas-driven) used to increase the pressure on the produced gas to move it into transmission lines or into storage.

Conglomerate – A sedimentary rock comprised of an unstratified mixture or stratified layers of cobbles, gravel, and sand.

Coniferous – Referring to a cone-bearing, usually evergreen, tree.

Contrast – The effect of a striking difference in the form, line, color, or texture of the landscape features within the area being viewed.

Criteria Pollutants – Air pollutants for which the EPA has established State and National Ambient Air Quality Standards. These include particulate matter (PM₁₀), nitrogen oxides (NO_x), sulfur dioxide (SO₂), carbon monoxide (CO), and volatile organic compounds (VOC).

Cubic Foot – The volume of gas contained in one cubic foot of space at a standard pressure base of 14.7 psia and a standard temperature base of 60 degrees Fahrenheit.

Cultural Resources – The archaeological and historical remains of human occupation or use. Includes any manufactured objects, such as tools or buildings. May also include objects, sites, or geological/geographical locations significant to Native Americans.

Cultural Significance – Is embodied in those qualities of prehistoric or historic districts, sites, buildings, structures, or objects that meet the National Register Criteria for Evaluation (36CFR60.4). The application of these criteria is explained in the National Register Bulletin 15, distributed by the National Park Service.

Cumulative Effects – As defined by 40 CFR 1508.7, cumulative effects are the impacts on the environment which result from the incremental impact of the action when added to other past, present, and reasonably foreseeable future

actions, regardless of what agency or person undertakes such other actions. Cumulative effects can result from individually minor but collectively significant actions taking place over a period of time.

dBA – The sound pressure levels in decibels measured with a frequency weighing network corresponding to the A-scale on a standard sound level meter. The A-scale tends to suppress lower frequencies, e.g., below 1,000 Hz.

Decibels (dBA) – Units for describing amplitude of sound frequencies to which the human ear is sensitive.

Deciduous – Trees or shrubs that lose their leaves each year during a cold or dry season.

Decommissioning – Generally, the removal of a facility or piece of equipment from service, or a change in status from active to inactive.

Demographic – Pertaining to the study of human population characteristics including size, growth rates, density, distribution, migration, birth rates, and mortality rates.

Desorb – To restore an adsorbed substance.

Direct Effects – As defined by 40 CFR 1508.9, these are effects that are caused by the action and occur at the same time and place as the action. Synonymous with direct impacts.

Direct Impact Area – An area analyzed for the effects of an action that would occur at the same place in time.

Discharge – The volume of water flowing past a point per unit time, commonly expressed as cubic feet per second (cfs), gallons per minute (gpm), or million gallons per day (mgd).

Dispersed Recreation – A general term referring to recreation use outside the developed recreation sites. This includes activities such as scenic driving, hunting, hiking, OHV use, and biking.

Distance Zones – Areas of landscapes denoted by specified distances from the observer. Used as a frame of reference in which to discuss landscape characteristics or activities of man.

- Background (bg) – Area located from 3–5 miles to infinity from viewer.
- Middleground (mg) – Area located from 0.25–0.50 to 3–5 miles from the viewer.
- Foreground (fg) – The detailed landscape found within 0 to 0.25–0.50 mile from the viewer.

Disturbance – An event that changes the local environment by removing organisms or opening up an area, facilitating colonization by new, often different, organisms.

Disturbed Area – Area where natural vegetation and soils have been removed or disrupted.

Diversity – The distribution and abundance of different plant and animal communities and species within the area covered by a Land and Resource Management Plan.

Drainage – Natural channel through which water flows some time of the year. Natural and artificial means for effecting discharge of water as by a system of surface and subsurface passages.

Drill Bit – The cutting device used to drill a well. It is typically made of hardened steel, and may have industrial grade diamond components.

Drilling Mud – The circulating fluid used to bring cuttings out of the well bore, cool the drill bit, and provide hole stability and pressure control. Drilling mud includes a number of additives to maintain the mud at desired viscosities and weights. Some additives that may be used are caustic, toxic, or acidic.

Earthquake – Sudden movement of the earth's crust resulting from faulting, volcanism, or other mechanisms.

Ecosystem – An interacting system of organisms considered together with their environment for example, marsh, watershed, and stream ecosystems.

Ecotone – The boundary or transition zone between adjacent plant communities, often delineating different habitat types.

Effects – Environmental consequences as a result of a proposed or alternative action. Included are direct effects, which are caused by the action and occur at the same time and place, and indirect effects, which are caused by the action and are later in time or further removed in distance but which are still reasonably foreseeable. Also referred to as impacts.

Endangered Species – Any species of animal or plant which is in danger of extinction throughout all or significant portions of its range and has been designated “endangered” in the Federal Register by the Secretary of the Interior. Disturbance of the habitat of endangered species is prohibited by the Endangered Species Act of 1973, as amended.

Endemic – Confined naturally to a particular geographic area. Often used in opposition to the word epidemic.

Environment – The aggregate of physical, biological, economic, and social factors affecting organisms in an area.

Environmental Analysis – An analysis of alternative actions and their predictable environmental effects, including physical, biological, economic, and social consequences and their interactions; short- and long-term effects; direct, indirect, and cumulative effects.

Environmental Assessment – A concise public document which serves to (a) Briefly provide sufficient evidence and analysis for determining whether to prepare an EIS or a Finding of No Significant Impact; (b) Aid an agency's compliance with NEPA when no EIS is necessary; (c) Facilitate preparation of an EIS when necessary.

Environmental Impact Statement – An analysis of alternative actions and their predictable environmental effects, including physical, biological, economic, and social consequences and their interactions; short- and long-term effects; direct, indirect, and cumulative effects.

Environmental Justice – Executive Order 12898 (February 11, 1994) mandates Federal agencies to identify and address disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority and low-income populations.

Ephemeral Drainage – A drainage area or a stream that has no base flow. Water flows for a short time each year but only in direct response to rainfall or snowmelt events.

Emission – Air pollution discharge into the atmosphere, usually specified by mass per unit time.

Erosion – Detachment or movement of soil or rock fragments by water, wind, ice, or gravity. Accelerated erosion is much more rapid than normal, natural or geologic erosion, primarily as a result of the influence of activities of man, animals, or natural catastrophes.

Exploration – The search for economic deposits of minerals, ore, and other materials through practices of geology, geochemistry, geophysics, drilling, and/or mapping.

Fault – A fracture in bedrock along which there has been vertical and/or horizontal movement caused by differential forces in the earth's crust.

Faulting – Relative displacement of adjacent bedrock along a fracture.

Fisheries – Streams and lakes used for fishing.

Fisheries Habitat – streams, lakes, and reservoirs that support fish.

Flaring – The controlled ignition of natural gas at a wellhead.

Floodplain – That portion of a river valley, adjacent to the channel, which is built of recently deposited sediments and is covered with water when the river overflows its banks at flood stages.

Fluvial – Comprehensive term for river processes.

Footprint – The actual surface area physically disturbed by oil and gas operations and ancillary facilities.

Forage – Vegetation used for food by wildlife, particularly big game wildlife and domestic livestock.

Forb – A broad-leaved flowering plant.

Foreground-Middleground – The area visible from a travel route, use area, or other observer position to a distance of 3 to 5 miles. The outer boundary of this zone is defined as the point where the texture and form of individual plants are no longer apparent in the landscape, and vegetation is apparent only in pattern or outline.

Fracturing – A method of stimulating well production by increasing the permeability of the producing formation. Fracture fluids, which include propping agents such as, sand or glass beads, are pumped into the formations under extremely high hydraulic pressure. The propping agents facilitate the formation of channels to release water and gas into well.

Fugitive Dust – Airborne particles emitted from any source other than through a controllable stack or vent.

Game Species – Animals commonly hunted for food or sport.

Gas Venting – The release of gas into the atmosphere following well development and before successful installation of the collection pipeline system.

Geotechnical – A branch of engineering concerned with the engineering design aspects of slope stability, settlement, earth pressures, bearing capacity, seepage control, and erosion.

Glacial Outwash – The material deposited by streams flowing within a glacier and by melt-waters during times of glacial advance and retreat.

Grade – A slope stated in terms of feet per mile or as feet per foot (percent); the content of precious metals per volume of rock (ounces per ton).

Groundwater – All subsurface water, especially that as distinct from surface water portion in the zone of saturation.

Habitat – The place or type of site where a plant or animal naturally or normally lives and grows. Includes all biotic, climatic, and soils conditions, or other environmental influences affecting living conditions.

Habitat Diversity – the distribution and abundance of different plant and animal communities and species within a specific area.

Habitat Fragmentation – The process by which habitats are increasingly subdivided into smaller units, resulting in their increased isolation as well as loss of total habitat area.

Habitat Type – The aggregate of all areas that support or can support the same primary vegetation at climax.

Herbaceous – The plant strata which contain soft, not woody, stemmed plants that die to the ground in winter.

Historic Landscape – A type of historic district that is a geographic area, or the sites, buildings, structures, natural and cultural features, and objects within a defined geographic area, that together, represents a defined historic or pre-historic theme and period. The definition of a historic landscape includes: (1) a significant theme (linkage or continuity) such as a particular economic activity or ethnic group, (2) definitions of those sites, buildings, structures, natural features, cultural landscape modifications, and objects (property types) which represent the theme, and (3) a cultural period or date range.

Hydrogen Sulfide (H₂S) – A flammable, poisonous, corrosive gas with an odor suggestive of rotten eggs, which can occur naturally in the gaseous phase in natural gas reservoirs.

Hydrology – A science that deals with the properties, distribution, and circulation of surface and subsurface water.

Hydrostatic Testing – Testing of the integrity of a newly placed, but uncovered pipeline for leaks. The pipeline is filled with water and pressurized to operating pressures, and the pipeline is visually inspected.

Impoundment – The accumulation of any form of water in a reservoir or other storage area.

Indemnify – To secure against, or to provide compensation for incurred loss, hurt, or damage.

Indirect Effects – As defined by 40 CFR 1508.8, these are effects which are caused by the action but occur later in time or are removed in distance from the action, but are still reasonably foreseeable. Synonymous with indirect impacts.

Infiltration – The movement of water or some other liquid into the soil or rock through pores or other openings.

Infrastructure – The basic framework or underlying foundation of a community including road networks, electric and gas distribution, water and sanitation services, and facilities.

Injection Well – Any well used for the disposal of air, gas, water or other substance into any underground stratum.

Intermittent Stream – A stream that flows only at certain times of the year when it receives water from alluvial ground water, springs, or from some surface source such as melting snow in mountainous areas.

Irretrievable – Applies to the loss of production, harvest, or use of natural resources. For example, some or all of the timber production from an area is lost irretrievably while an area is serving as a winter sports site. The produc-

tion lost is irretrievable, but the action is not irreversible. If the use changes, it is possible to resume timber production.

Irreversible – Applies primarily to the use of nonrenewable resources, such as minerals or cultural resources, or to those factors that are renewable only over long time spans, such as soil productivity and aspen regeneration. Irreversible also includes loss of future options.

Landform – Any physical, recognizable form or feature of the Earth's surface, having a characteristic shape and produced by natural causes. Includes major features such as plains, plateaus, and mountains, and minor features, such as hills, valleys, slopes, canyons, arroyos, and alluvial fans.

Landscape Character – The arrangement of a particular landscape as formed by the variety and intensity of the landscape features as defined as the four basic elements (form, line, color, and texture). These factors give the area a distinctive quality that distinguishes it from its immediate surroundings.

Landslide – A perceptible downhill sliding or falling of a mass of soil and rock lubricated by moisture or snow.

Land Use – Land uses determined for a given area that establish the types of activities allowed (e.g., mining, agriculture, timber production, residential, industrial).

Lease – Any contract, profit-share arrangement, joint venture or other agreement issued or approved by the United States under a mineral leasing law that authorizes exploration for, extraction of or removal of oil or gas.

Lek – An area used by sage grouse for mating displays (strutting ground).

Lithic Scatter – Is a surface scatter of cultural artifacts and debris that consists entirely of lithic (i.e., stone) tools and chipped stone debris. This is a common prehistoric site type that is contrasted to a cultural material scatter, which contains other or additional artifact types such as pottery or bone artifacts, to a camp which contains habitation features, such as hearths, storage features or occupation features, or to other site types that contain different artifacts or features.

Loam – A mixture of sand, silt, and clay containing between 7 and 27 percent clay, 28 to 50 percent silt, and less than 50 percent sand.

Locus – Is a discrete place or physical location generally used in describing the qualities of a site. When the term is used in contrast to a site, it refers to a locality containing the traces of a brief, limited or transient cultural activity.

Long-Term Impacts – For the purpose of the Powder River Oil and Gas NEPA analysis, long-term effects generally last beyond the construction period.

Macroinvertebrates – Aquatic invertebrate animals that live on or in the surface of the substrate of streams or lakes.

Management Area – an area composed of aggregate pieces of land (generally several to many analysis areas) to which a given management objective and prescriptions are applied.

Management Direction – a statement of multiple use and other goals and objectives, along with the associated management prescriptions and standards and guidelines to direct resource management.

Median – A value in an ordered set of values above and below which there are an equal number of other values.

Mesic – A habitat characterized by moderate moisture and temperature conditions and by a profusion of plant life.

Methane (CH₄) – The simplest hydrocarbon; natural gas is nearly pure methane.

Mitigate – To lessen the severity.

Mitigation – Actions to avoid, minimize, reduce, eliminate, or rectify the impact of a management practice.

Modified Mercalli Intensity Scale – A qualitative measurement scale describing the intensity (degree of shaking) felt by people, structures, and the ground. Intensities range from I (felt by few, if any, people) to XII (damage total).

Monitor – To systematically and repeatedly watch, observe, or measure environmental conditions in order to track changes.

Monoculture – An area characterized by the vegetation consisting of a single species, e.g. a wheat field.

Mottled – Marked by different shaded spots.

National Ambient Air Quality Standards (NAAQS) – The allowable concentrations of air pollutants in the air specified by the Federal government. The air quality standards are divided into primary standards (based on the air quality criteria and allowing an adequate margin of safety and requisite to protect the public health) and secondary standards (based on the air quality criteria and allowing an adequate margin of safety and requisite to protect the public welfare from any unknown or expected adverse effects of air pollutants).

National Register of Historic Places – A list, maintained by the National Park Service, of areas which have been designated as being of historical significance.

Native Species – Plants that originated in the area in which they are found, i.e., they naturally occur in that area.

Natural Gas – Those hydrocarbons, other than oil and other than natural gas liquids separated from natural gas, that occur naturally in the gaseous phase in

the reservoir and are produced and recovered at the wellhead in gaseous form. Natural gas includes coal bed methane gas.

National Environmental Policy Act – The National Environmental Policy Act of 1969. It is the national charter for protection of the environment. NEPA establishes policy, sets goals, and provides means for carrying out the policy. Regulations at 40 CFR 1500–1508 implement the act.

Nesting Substrate – The site on which a nest is placed such as a tree, cliff, or ground.

Noxious Weeds – An alien, introduced, or exotic undesirable species that is aggressive and overly competitive with more desirable native species.

Ozone – A molecule containing three oxygen atoms (O_3) produced by passage of an electrical spark through air or oxygen (O_2).

Pan Evaporation – a measurement of water loss to the atmosphere from a standard evaporation pan with a diameter of 47.5 inches and a depth of 10 inches.

Paleontology – The science that deals with the history and evolution of life on earth.

Particulate Matter – A particle of soil or liquid matter (e.g., soot, dust, aerosols, fumes and mist).

Passerine – A taxonomic order that includes perching birds and songbirds.

Peak Flow – The greatest flow attained during melting of winter snowpack or during a large precipitation event.

Perennial – A plant whose life cycle lasts longer than two years. The tops of herbaceous perennials die down at the end of the growing season, buds, roots, and underground portions persist.

Perennial Stream – A stream or reach of a stream that flows throughout the year.

Permeability – The capacity of a soil or groundwater aquifer to transmit water.

Permeable – The property or capacity of a porous rock, sediment, or soil to transmit a liquid.

pH – The negative \log_{10} of the hydrogen ion activity in solution; a measure of acidity or basicity of a solution.

Physiographic – Pertaining to the genesis and evolution of landforms.

PM₁₀ – Airborne suspended particles with an aerodynamic diameter of 10 microns or less.

Porosity – The voids or openings in geological materials.

Potentiometric surface – A surface that represents the total head in an aquifer; it represents the height at which the water level stands in tightly cased wells that penetrate the aquifer.

Prevention of Significant Deterioration (PSD) – A regulatory program under the Clean Air Act (Public Law 84-159, as amended) to limit air quality degradation in areas currently achieving the National Ambient Air Quality Standards. The PSD program established air quality classes in which differing amounts of additional air pollution is allowed above a legally defined baseline level. Almost any additional air pollution would be considered significant in PSD Class I areas (certain large national parks and wilderness areas in existence on August 7, 1977, and specific Tribal lands redesignated since then.) PSD Class II areas allow that deterioration associated with moderate, well-controlled growth (most of the country). Although Class III areas would allow greater incremental impacts planned individual growth, no Class III areas have been established.

Produced Water – Formation water pumped during the development of a gas well.

Productivity – In reference to vegetation, productivity is the measure of live and dead accumulated plant materials.

Range – Land producing native forage for animal consumption and lands that are revegetated naturally or artificially to provide forage cover that is managed like native vegetation, which are amenable to certain range management principles or practices.

Raptor – A bird of prey with sharp talons and strongly curved beaks, which preys on living animals (e.g., eagles, hawks, falcons, and owls).

Recharge – Replenishment of the water supply in an aquifer through the outcrop or along fracture lines.

Reclamation – The process of restoring disturbed areas using any of several methods, recontouring, spreading topsoil or growth medium, seeding, and planting, among others.

Recontouring – Restoration of the natural topographic contours by reclamation measures, particularly in reference to roads.

Record of Decision – A decision document for an Environmental Impact Statement or Supplemental EIS that publicly and officially discloses the responsible official's decision regarding the actions proposed in the Environmental Impact Statement and their implementation.

Recreation Opportunity Spectrum Settings – A system of measuring the land's ability to meet the expectations of recreation users. Six recreation categories, from primitive (natural) to urban (highly modified) describe the

activities, settings, and experiences an area offers. The following categories may be found in or near the analysis area:

- **Urban** – a highly modified environment, although the background may have natural elements. Sights and sounds of man predominate, and large numbers of users can be expected.
- **Rural** – an area characterized by the sights and sounds of rural residential and agricultural land uses. The interaction between users is often moderate to high.
- **Roaded Natural** – a road corridor with a landscape that is characterized as natural or natural appearing. The road has moderate to high use.
- **Semi-Primitive Motorized** – a natural area predominantly unmodified by man. There are opportunities for isolation from the sights and sounds of man, but occasional evidence of other area users.

Recreation Visitor Day – A measurement equivalent to one person recreating for 12 hours or several people for a total of 12 hours.

Reserve Pit – A pit prepared on a well pad before drilling to use for wastewater retention, evaporation, and disposal. Wastewaters will have a fine solids component.

Reserves – Identified resources of mineral-bearing rock from which the mineral can be extracted profitably with existing technology and under present economic conditions.

Residuum – Unconsolidated material that accumulates by weathering of parent material in place.

Resources (geologic) – Reserves plus all other mineral deposits that may eventually become available – either known deposits that are not recoverable at present, or unknown deposits, that may be inferred to exist but have not yet been discovered.

Riffle – A shallow section of stream with rapid current and a surface broken by gravel, rubble, or boulders.

Rights-of-Way – An accurately located strip of land with defined width, point of beginning, and point of ending. It is the area within which the user has authority to conduct operations approved or granted by the landowner in an authorizing document, such as a permit, easement, lease, license, or Memorandum of Understanding.

Riparian – Land areas that are directly influenced by water. They usually have visible vegetative or physical characteristics showing this water influence. Streamsides, lake borders, or marshes are typical riparian areas.

Riparian Ecosystem – a transition between the aquatic ecosystem and adjacent upland terrestrial ecosystem; identified by soil characteristics and distinctive vegetation communities that require free or unbounded water.

Rockfall – Rapid fall of a detached piece of bedrock from a cliff or steep slope.

Roosting – To rest or sleep in a roost. A bird will typically use the same roost over an extended period of time.

Runoff – That part of precipitation that appears in surface streams. Precipitation that is not retained on the site where it falls and is not absorbed by the soil.

Salmonidae – A family of fish that includes salmon and trout.

Salmonid Spawning Areas – Waters that provide or could provide a habitat for active self-propagating populations of salmonid fishes.

Scatter (archeological) – Random evidence of prior disturbance that is distributed about an area rather than concentrated in a single location.

Scoping – Procedures by which agencies determine the extent of analysis necessary for a proposed action, (i.e., the range of actions, alternatives, and impacts to be addressed; identification of significant issues related to a proposed action; and the depth of environmental analysis, data, and task assignments needed).

Sedge – Plants that resemble grasses but have hollow rather than woody stems.

Sediment – Soil or rock particles that have been transported to stream channels or other bodies of water. Sediment input comes from natural sources, such as soil erosion, rock weathering, agricultural practices, or construction activities.

Sediment Load – The amount of sediment (sand, silt, and fine particles) carried by a stream or river.

Sedimentary – Rock formed from fragments of pre-existing rocks (e.g. sandstone) or by precipitation from solution (e.g. limestone).

Seedling – Newly germinated plants.

Seismic – Pertaining to or produced by earthquakes.

Sensitive Species – Those species of plants or animals that have appeared in the Federal Register as proposed for classification and are under consideration for official listing as endangered or threatened species under the Endangered Species Act. This also includes species that are on an official state list or are recognized by the Land Manager as needing special management to prevent their being placed on federal or state lists.

Sensitivity Level – a particular degree or measure of viewer interest in the scenic qualities of the landscape.

- Sensitivity Level 1 – The highest sensitivity level, referring to areas seen from travel routes and use areas with moderate to high use.

- Sensitivity Level 2 – An average sensitivity level, referring to areas seen from travel routes and use areas with low to moderate use.
- Sensitivity Level 3 – The lowest sensitivity level, referring to areas seen from travel routes and use with low use.

Short-Term Impacts – For the purpose of the Powder River Basin Oil and Gas NEPA analysis, short-term impacts are generally defined as those that would occur during the construction period.

Shut In – Refers to a well that is completed, is shown to be capable of production in paying quantities, and is not presently being operated.

Significant – As used in NEPA determination of significance requires consideration of both context and intensity. Context means that the significance of an action must be analyzed in several contexts such as society as a whole, and the affected region, interests, and locality. Intensity refers to the severity of impacts (40 CFR 1508.27).

Slump – Slide or earthflow of a soil mass.

Soil – Loose, unconsolidated surface material comprising topsoil and subsoil.

Spawning – The deposition of eggs and sperm by fish.

Species – Organisms that successfully reproduce among themselves and cannot reproduce successfully with other organisms.

Species of Special Concern – A native species whose population is low and limited in distribution or has suffered significant reductions because of habitat loss.

Specific Conductance (umhos/cm) – A measure of electrical conductivity in water that is influenced by the mineral content of the water.

Stormwater Runoff – Overland runoff from snowmelt or a precipitation event.

Strata – An identifiable layer of bedrock or sediment; does not imply a particular thickness of rock.

Substrate – Material consisting of silts, sands, gravels, boulder and woody debris found on the bottom of a stream channel.

Target formation – The geological association of rocks that contain the exploitable mineral reserves.

Telemetry – Instrumentation to transmit scientific equipment readings from remote locations to a central site.

Threatened Species – Any species of animal or plant which is likely to become endangered within the foreseeable future throughout all or significant portions of its range. It has been designated in the Federal Register by the Sec-

retary of the Interior as a threatened species. Disturbance of the habitat of threatened species is prohibited by the Endangered Species Act of 1973, as amended.

Thrust Faulting – Low angle fracturing of bedrock in response to horizontal stress within the earth's crust

Total Dissolved Solids – Total amount of dissolved material, organic or inorganic, contained in a sample of water.

Total Suspended Solids – Amount of undissolved particles suspended in liquid.

Transmissivity – The rate at which water is transmitted through a unit width of a groundwater aquifer or confining bed under a unit hydraulic gradient.

Turbidity – A fisheries measurement of the total suspended solids in water expressed as nephelometric turbidity units (NTU).

Understory – The trees and other woody species growing under a more-or-less continuous cover of branches and foliage formed collectively by the upper portion of adjacent trees and other woody growth.

Variety Class – a particular level of visual variety or diversity of landscape character. There are three variety classes; A, B, and C.

- Variety Class A – distinctive
- Variety Class B – common
- Variety Class C – minimal

Vegetation – All of the plants growing in and characterizing a specific area or region; the combination of different plant communities found there.

Visual Resource – The composite of basic terrain, geologic features, water features, vegetation patterns, and land use effects that typify a land unit and influence the visual appeal the unit may have for viewers.

Visual Resource Management System – The BLM system for evaluating and classifying visual resources. The system uses line, form, color, texture, scale and space to categorize lands into one of four classes:

- Class I. Preservation
- Class II. Retention
- Class III. Partial Retention
- Class IV. Modification

Water Quality – refers to a set of chemical, physical, or biological characteristics that describe the condition of a river, stream, or lake. The quality of water determines which beneficial uses it can support. Different instream conditions or levels of water quality are needed to support different beneficial uses.

Waters of the United States – A jurisdictional term from Section 404 of the Clean Water Act referring to water bodies such as lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation, or destruction of which could affect interstate or foreign commerce.

Watershed – All of the land that drains surface water to a given stream above a designated point (usually its mouth); also called a stream drainage or drainage basin.

Well Head – The equipment used to maintain surface control of a well. It is composed of the casing head, tubing head and a series of valves and fittings.

Well Pad – A level area constructed for the purpose of drilling a well.

Wetlands – Areas that are inundated by surface or groundwater with a frequency sufficient to support and under normal circumstances does or would support a prevalence of vegetation or aquatic life that requires saturated or seasonally saturated soil conditions for growth and reproduction.

Winter Range – The place where migratory (and sometimes non-migratory) animals congregate during the winter season.

Workover – Well maintenance activities that require onsite mobilization of a drill rig to repair the well bore equipment (casing, tubing, rods, or pumps) or the wellhead. In some cases, a workover may involve development activities to improve production from the target formation.